

ABSTRACT OF THE DISCLOSURE

The invention relates to a method of determining *in vitro* the capacity of a cell population to induce bone formation *in vivo* including ~~comprising~~ the steps of: ~~a)~~ providing a sample of a cell population; ~~b)~~ dividing ~~[[said]]~~ the sample into a first and a second part containing an equal number of cells; ~~c)~~ culturing the first part in the presence of an osteogenic stimulation factor; ~~d)~~ culturing the second part in the absence of an osteogenic stimulation factor; ~~e)~~ determining degrees of expression of a bone-specific protein, and; ~~and f)~~ comparing the degrees of expression of the bone-specific protein of the first part and the second part thereby providing a measure for the capacity of the bone cell population to induce bone formation *in vivo*.